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ORATION

BY

MR. JOHN W. FORNEY,

AT THE

101st CELEBRATION OF AMERICAN INDEPENDENCE,

JULY 4, 1877,

IN THE

INTERNATIONAL EXHIBITION BUILDING,

FAIRMOUNT PARK,

BY INVITATION OF THE BOARD OF MANAGERS.



PHILADELPHIA :

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THIRTEENTH AND MARKET STREETS,
PHILADELPHIA, JUNE 21, 1877.

HON. JOHN W. FORNEY:

MY DEAR SIR:—On behalf of the Board of Directors of the International Exhibition, I have the honor to communicate to you the fact that it was unanimously decided to invite you to deliver an oration in the Exhibition Building, on the Fourth of July next. Since the Committee having the matter in charge, settled upon yourself as the proper person at the very beginning of the arrangement, and were not willing to consider any one else, I trust it may meet with your convenience and pleasure to accept the invitation, so cordially and urgently given, because of the high place you occupied in the great Centennial Exhibition.

Very truly yours,

JOHN WANAMAKER.

OFFICE THE PRESS,
PHILADELPHIA, JUNE 25th, 1877.

JOHN WANAMAKER, ESQ.:

DEAR SIR:—I thank you for your letter of the 21st of June informing me that the Board of Directors of the International Exhibition have unanimously decided to invite me to deliver an oration in the Exhibition Building; on the Fourth of July next; and I reply by stating that I will be ready at that time to comply with their request so graciously communicated by yourself.

Truly yours,

J. W. FORNEY.

ORATION.

“Take away gold and silver, and the whole range of baser metals, leaving us iron alone, and we would hardly miss them. Take away iron, and we lose what is next to life, and that which sustains life, the greatest boon the Almighty has conferred upon man.”

These words were spoken by the lamented Joseph Harrison, Jr., of this city, April 27, 1859, at a public dinner given to the memorable Henry C. Carey, still living, in his eighty-fourth year.

The variety of the uses of iron justified the eulogy of the scientific mechanic. These uses are almost infinite. Labor and art are the magicians that have plucked it from the earth and coined it into many adaptations. From the monster Corliss Engine, which drives a world of machinery, to the monster Krupp Cannon, which hurls its massive missiles over vast distances with unerring precision, to the keen blade of Damascus, and the hair-springs of our delicate watches; from the huge columns that tower in great capitals, at home and abroad, to the most exquisite female trinket; from the stupendous iron-clads that trample down the tempestuous sea, to the fragile instrument of the fearless surgeon; from the iron locomotive on its rails of steel, to the gossamer fabric almost as light as the air itself; from the massive temple to the

trifling toy ; this single mineral, iron, enters into nearly all our wants and luxuries. It helped Franklin to tame the lightning of the skies, and wards that lightning from our homes ; it aids the transmission of human thoughts over seas and mountains, to the utmost ends of the earth, almost "as swiftly as the sightless couriers of the air ;" and it assists the distribution of these thoughts, by converting the printing press into an almost conscious being.

The artist, painter, sculptor, architect, physician, astronomer, soldier, sailor and scholar, the builder and the antiquarian, the man of peace and the man of war, the lady in her boudoir, the matron in her kitchen, the poor girl with her hired sewing-machine, the poor boy in his fight for a trade, the editor with his steel pen, the printer before his iron case, the engineer as he traces and tracks the wilderness—in most things, practical and poetic, present and future, the things of to-day and to-morrow, this simple gift of God comes as a precious benefaction, making many of His other gifts more useful and rare.

If you will go to the well known home of the same Mr. Harrison, to whom I have alluded, you will see how he has illustrated his own thought and how he has crowned the great guild of human labor. It is a picture, called "The Iron Worker and King Solomon," painted for Mr. Harrison in 1865, by the celebrated Christian Schuessele. The object is to show that iron is the chief agent in all the mechanic arts. I give the incident in Mr. Harrison's own words :

"When King Solomon had finished the Temple, and having set apart a day for its consecration, he invited

all the great men of the kingdom, together with the architect, the surveyor, the chief carpenter, the chief mason, and others who had been engaged in planning and directing the work.

“The vast edifice rested with closed doors, awaiting the arrival of the King. He came at length, the doors were opened, and to the sound of tabret, harp, psaltery and trumpet, the solemn and imposing procession entered the house then to be dedicated to the worship of the living God.

“As the King moved toward the seat prepared for him, to the amazement of all, a stalwart smith was seen sitting on the right-handed seat nearest the throne. Hammer in hand, bare armed and head erect, with reeking sweat upon his brow, showing him fresh from the forge, he sate, nothing daunted by the near approach of majesty. A movement was made to remove the bold intruder. ‘Hold!’ cried the King, and thus he spake to the smith: ‘Friend, why art thou here filling a place intended for one better than thou?’ ‘Mighty King, O live for ever,’ replied the smith, ‘I own no superior here, save your Royal Majesty, and I fill this place, as by right it is mine, and as I will presently show, if thou wilt graciously permit me. Your Majesty hath invited here to-day the chief architect, the surveyor, the chief mason, and many others who have labored herein, but thou hast overlooked the so-thought humble smith, to whom all these who have been honored with a place at this ceremony are indebted. Without the instruments that I had prepared for them, could the chief architect make his plans, the surveyor his lines? Could the mason carve

his stone, or the carpenter fashion his wood? The very first stroke in the construction of this great edifice was made by the smith, and from the beginning unto the end he has been by the side of those who have built this work, aiding them with his art in making instruments, without which this temple could not have been reared.

“Solomon mused for a moment and then said: ‘Friend, thou speakest but too truly. Much is indeed due to thee, and thou shouldst not have been neglected. Stay where thou art, and let those who would have spurned thee from thy place, feel with me the just rebuke thou hast bestowed upon us.’ ”

There are thirty groups of exhibits in the Permanent Exhibition, sub-divided into a large variety of specimens: natural, mechanical, artistic, educational, agricultural, horticultural and philosophical; and yet in all these groups and their sub-divisions, there are only two that do not derive their value from it—iron is their chief ingredient or agent.

The story of the Centennial is told, and I am not here to repeat it. Rather, at the opening of the first year of the second century of the Republic, let me recall, however feebly, some of the results of that unforgotten event. They budded during the Great Exhibition, and now we are living among some of their richest ripened fruits. Through doubt, sinister prophecies, and financial disaster, that dazzling achievement rose like a fabric reared by angel hands. It grew apace, grandly flourished, fulfilled its mission, and left a record as stainless as the great work of peace to which it was dedicated. Unlike the lovely vision in Shakespere’s

Tempest, the Centennial has bequeathed something more than a memory. We must not say of it what Prospero said of his magical conception :

“ Our revels now are ended ; these, our actors,
As I foretold you, were all spirits, and
Are melted into air, into thin air,
And like the baseless fabric of this vision,
The cloud capped towers, the gorgeous palaces,
The solemn temple, the great globe itself,
Yea, all which it inherit, shall dissolve,
And like this insubstantial pageant faded,
Leave not a rack behind. We are such stuff
As dreams are made of, and our little life
Is rounded with a sleep.”

But our great work--the Centennial Exhibition--born of facts, has left a world of facts to wonder at for ever. Created to honor an immortal deed, it has enriched posterity in a thousand practical lessons. This splendid hall, yonder superb gallery of art, yonder luminous conservatory, and to the left, the machinery hall, still throbbing with the pulsations of its marvellous inventions—all four belong to these lessons. And what a volume it is ! How full of novelty and encouragement and hope to our own people, and to the people of the nations of the earth !

Let me dwell for a few moments on the harvest of the seeds planted during the last hundred years.

The census of 1790 shows a population of 3,929,217 ; that of 1870, 38,558,371. There were in 1790 only 6 cities of more than 8,000 inhabitants ; namely, Philadelphia, 42,529 ; New York, 33,131 ; Boston, 18,038 ; Charleston, 16,359 ; Baltimore, 13,503 ; Salem, 8,000. There were in 1870, 92 cities of from 8,000 to 12,000 ;

63 of from 12,000 to 20,000; 39 of from 20,000 to 40,000; 14 of from 40,000 to 75,000; 8 of from 75,000 to 125,000; 3 of from 125,000 to 250,000; 3 of from 250,000 to 500,000; 2 of more than 500,000.

The *number of* post offices in 1790 was 75; of letters about 300,000. Mails were carried 3 times a week between Boston and New York, 5 times between New York and Philadelphia. It took 2 days to go with the coach from New York to Philadelphia. In 1870 there were 28,492 post offices, and about 590,000,000 letters were carried; in that year the letter carriers of Manchester, N. H., delivered more letters than constituted the whole burden of the postal service in 1790.

Our country in 1790 comprised a thin fringe of settlements along the Atlantic. Behind this lay the "Wilderness," very imperfectly explored, and inhabited by the savages, whose numbers were greatly exaggerated. A journey from the Delaware to Fort Pitt (Pittsburg), one of the most advanced outposts in the Wilderness, took 8 days, and was considered a terrible undertaking. The country on the other side of the Wilderness was entirely unknown. In 1803 it was still considered probable that the Missouri communicated with the Pacific. Between Albany and the Lakes there was no communication.

The true cause of the rising of the American colonies against England, was her constant meddling with their manufactures. The "Navigation Act" of 1650, extended in 1661 and 1663, shows England's purpose. By it it was provided that no article of colonial produce or British manufacture should be carried in any but British ships, and that the colonists should not be

allowed to purchase in any but British markets any manufactured article which England had to sell. When the colonies began to get manufactures of their own, the purpose became apparent. The English government had to report to the House of Commons concerning manufactures in the colonies, and as it was felt "that colonial industry would sink the value of land in England, colonial industry was forbidden or hampered with by a number of Acts, from 1731 to 1776. It was forbidden to carry wool or woollen goods, felt, hats, glass, &c., manufactured in the colonies, not only into foreign markets, but from one colony to another, so that a man in Philadelphia was not allowed to buy a pair of shoes made at Lynn, Mass. Also the number of apprentices was strictly limited, and all manufacturing industry thus kept down. Nevertheless, when Washington, in 1790, made his inauguration speech, he was dressed in a broadcloth suit, every article of which was made in Hartford, Conn., and the total value of the manufactures of the United States for that year was estimated at about \$20,000,000.

Cotton was early grown in the Southern States, but only for home consumption, and all exportation was most strictly forbidden in 1774. The production of cotton was in the beginning so small, that when, in 1784, the first cargo of American cotton arrived at Liverpool, consisting of 8 bags, the importation was considered unlawful because it could not be an American product. The total production was in 1801, 48,000,000 pounds; in 1811, 80,000,000 pounds; in 1821, 180,000,000 pounds; in 1831, 355,000,000 pounds; in 1872, 1,824,000,000 pounds. With the production

of the raw stuffs rose also the manufacturing industry. The first Arkwright machine was put in operation at Bridgewater, Mass., in 1786, by Hugh Orr; but one of the most ardent promoters of the cotton industry was Tench Coxe, of the "Pennsylvania Society for Encouraging Manufactures." In 1815, there were 165 factories, with 119,510 spindles; in 1831, 795 factories, with 1,246,500 spindles; in 1874, 9,415,383 spindles in operation.

Six paper mills were started in and around Philadelphia by Franklin alone; but in 1800 it still took three months to transform a pair of old linen pants into a sheet of writing-paper; now 24 hours are sufficient. The improvement of the paper-making machinery is largely due to John Ames, of Springfield, Mass. In 1820, the value of paper manufactures in the United States was \$3,000,000; in 1854, \$27,000,000; in 1870, \$48,675,000.

Iron was one of the earliest colonial manufactures. In 1728, 1,127 tons were exported to England; in 1771, 5,303 tons. In 1810, there were 153 furnaces, and 53,908 tons were produced; in 1855, 784,178 tons; in 1865, 931 582 tons; in 1873, 2,695,000 tons. The consumption of iron in the United States, was in 1872, 150 pounds per capita; in Great Britain, it was 200 pounds.

Woollen manufactures numbered in 1850, 1559 establishments, employing 39,252 hands, and producing goods to the value of \$43,207,000; in 1870, 2871 establishments, employing 93,108 hands, and producing goods to the value of \$77,963,000.

The total number of persons employed in manufacturing industry was, in 1870, 2,500,189, to 5,151,767

employed in agriculture, and 1,117,928 in trade and transportation.

Manufactures in which the United States beat the world are: Artificial limbs, surgical instruments, agricultural implements, locomotives, varnishes, paints, glue, boots and shoes, &c. Other articles in which they rival the world are: Flour, hams, preserved meat, canned fruit, leather, furniture, pianofortes, all kinds of cotton goods, iron ware, &c.

The value of manufactured products exported by the United States in 1821 was 28 cents per head of the entire population; in 1835, it was 51 cents; in 1868, \$1.53; but since the outbreak of the war the rate has again fallen below one dollar.

The American Reaping Machines attracted great attention in 1851, at the World's Exhibition in London, and in 1855 a competition took place near Paris, between an American, English and Algerian reaper. The American won, cutting an acre of oats in 22 minutes; the English in 66; the Algerian in 72. Since 1851, 3,000 patents have been granted in the United States for improvements in harvesters and attachments.

The Sewing Machine, Elias Howe. In 1873, 600,000 sewing machines were made and sold, and about \$70,000,000 were invested in this kind of manufacture.

At the close of the Revolution there were no manufactures of copper, silver and gold. Now these products are almost incalculable, and our watches are driving the foreign article from our markets. There were only three paper mills in the United States at that time. Now our paper mills manufacture annually at least 800,000,000 pounds, while \$200,000 annually

are expended in foreign rags alone. Our india rubber, silk, and wood-sawing machines employ a vast capital and many laborers. Our sewing-machines are found all over the world. We had no gold mines at the close of the Revolution. Now our gold product up to this time has amounted to more than \$800,000,000. American coal was unknown in 1820. Now our coal mines of all kinds produce 15,000,000 of tons annually. We had no railroads, worthy of the name, until 1835. Now we have over 73,000 miles.

But in all these changes, nothing could more amaze the men of the past, than the startling progress in journalism since Benjamin Franklin made his appearance as an editor, first on his brother's newspaper, the *New England Courant*, while he was an apprentice, and second when he established the *Pennsylvania Gazette* in this city, in 1730, when he was about twenty-four years of age. Of 63 newspapers that had been started in America, from 1690 to 1783, only 43 were in existence at the conclusion of peace with Great Britain. Now look at the number of publications, with their circulation and annual issue, in the United States, in 1870. There are 5871 daily, tri-weekly, semi-weekly, weekly, semi-monthly, monthly, bi-monthly and quarterly newspapers and periodicals in this country, with an annual circulation of 20,842,465. In 1704 there was but one newspaper with an annual circulation of 16,000 copies, when our population was 600,000 souls; and in 1870 there were 5871 periodicals of all kinds, and our population was rated 38,555,753.

These figures, taken at random, suggest the contrast between the past and the present. They are

elaborated in the magnificent temple in which we stand to-day. Look around the multiplied symbols of nature and art; from the mineral which is dug from the ground to glass in all its beautiful varieties; chemicals in their infinite development; furniture and its exquisite improvements; practical illustrations of house-keeping; woollen goods of every description; leather; gold, and silver ware; stationery; wall paper; fire-arms and ammunition; sporting implements; philosophical, scientific, and optical instruments; weights and scales; carriages and vehicles; educational systems and histories; architectures, paintings, sculptures, photographs, and engravings; art applied to industry; machinery; models of the whole system of railways; agricultural and animal products; land and marine animal culture in living and preserved specimens. And all enclosed in an edifice so light, harmonious, and comprehensive, as to constitute one great school in itself, even without the music which frequently resounds through its splendid spaces, as if to ravish the ear, while the eye, and the hand, and the mind, are educated on every side.

And observe, that while all this is purely American, foreign nations freely contribute to a display without parallel on our continent, save by the gorgeous exhibition from which it has grown.

It was my good fortune, while your Centennial Commissioner abroad, two years ago, to visit and enjoy the palaces of European industry and art. They were, of course, older, more elaborate, and more costly; but as I stood in these venerable museums and galleries, beginning with Westminster Abbey, in London, and ending with St. Peter's, in Rome, the fact that impressed

me most, was that they were the continued outgrowth of royal beneficence, projected and paid for by kings and priests. Do you wonder that, as I turned from these venerable mementoes, trophies of old wars, effigies and gifts of dead monarchs, that however instructed by the experience, I gave my homage to the Centennial Exhibition in the city of Philadelphia, the great work of the American people alone?

I will not ask you to be proud of this work, or of its successor, the Permanent Exhibition. But are you quite aware of the value of the latter? Do you realize how much depends upon it, and how much each of you can do to make it a triumph? Do you recollect that you are most fortunate in the auspicious circumstances from which the Permanent Exhibition has risen, and that even at this early day it is more truly a school for the people—cheaper, more accessible, and more improving—than any other similar establishment in the world? Under the sagacious and honest management of an unpaid directory, this Permanent Exhibition will extend, until at the end of another generation, it will stand as a model in the American continent. It will be sought far and near as the most perfect of all our popular systems of classified inventions, science, art, and practical knowledge. All that is necessary is for the people of Philadelphia to understand these facts, and resolutely to discharge their duties. Bear in mind that your population must be now over 800,000, and that with this vast influence you should make encouragement of your Permanent Exhibition a daily study and a daily pleasure. There is not a man, woman or child, between the two rivers, that cannot do something

to place it on a basis of certain and increasing profit and development. The substantial sympathy which comes from pride of city, pride of State, and pride of country, should be rearoused at once; and so far as Philadelphia itself is concerned, this sympathy ought to be easily aroused. Look at our great local trusts! Admirable as they are, they are not better administered than this; yet they flourish, are frequently enriched by generous donations and bequests, whether their object be religion, education, benevolence, science or art; whether they are intended to heal the wounded, cure the sick, guard and protect the blind, the deaf and the dumb. Why, then, should not this Institution, which is at once school, college, museum, and workshop, be as generously supported by a grateful and spirited people?

Now walk with me through the outlying grounds: away from the Permanent Exhibition, the Art Gallery, the Horticultural Hall, and the lovely Centennial expanse. Here we find another cause for reflection and rejoicing. There is no such noble stretch of territory in or near any one city so entirely given up to the people. And here, on this lovely Fourth of July afternoon, A. D. 1877, I think I see the noble company who one hundred years ago, and frequently afterwards, gathered in front of Belmont Mansion, and with doubt and fear reflected upon the fate of the infant city on the waters of the river Delaware, and upon the fate of the young republic. Beautiful as this spot is now, it was perhaps equally beautiful during the first administration of President George Washington.

At that day the long and stately row of hemlocks,

described by Downing, the landscape architect, as the grandest avenue of trees in America, extended from Belmont Mansion for a considerable distance. Some of them were of centuried growth, ninety feet high, draped with masses of English ivy in high perfection; a few are still standing, venerable memorials of by-gone days.

The garden walks were finished with box and trivet, the beds set with rare shrubs and flowers, the grounds adorned with statuary. Here, on this charming spot, elevated two hundred and forty feet above tide-water, the fathers of the republic often met together.

Here Washington was a frequent visitor while President of the United States, even while Commander-in-chief of the colonial armies, and here he communed with Benjamin Franklin, the philosopher; David Rittenhouse, the astronomer; Alexander Hamilton, his first Secretary of the Treasury; Thomas Jefferson, the Author of the Declaration of Independence, and Washington's first Secretary of State; John Adams, the first Vice President; Alexander J. Dallas, the father of George M. Dallas; Robert Morris, the bold but unfortunate financier of the Revolution; and here also gathered, in social and unrestrained intercourse, the beloved Frenchman, La Fayette, the German Baron Steuben, and the Count Pulaski, the Polish patriot. But the central figure was the owner of Belmont Mansion, the accomplished host, Richard Peters. We are apt to forget our great ones; and of all this venerable company, apart from Washington, Jefferson, Franklin, and La Fayette, how few remember the public services, the social excel-

lence, and the patriotic character of Richard Peters ! He must have been a rare combination. Secretary of the Board of War during the Revolution, Representative in the first American Congress, Judge of the United States District Court of Pennsylvania for thirty-nine years, a scientific farmer, poet, wit, and orator, and one of the handsomest men of his time. I knew some of his posterity a few years ago, and easily revived the illustrious patriot in their captivating features, magnetic humor, and fascinating manners. It is not difficult to recall Judge Peters seated before Belmont Mansion, surrounded by the brilliant galaxy I have named. Many of them met there during and after the Revolution. They shared the trials and troubles of that dark and doubtful vicissitude, and as they looked beyond the cultivated and romantic house and grounds, where they talked over the mysterious and unfolding future, doubtless they often wandered into the deeper and nearer wilderness, and pondered upon the destiny of their country.

We can imagine the dignified form of the father of the republic. George Washington, dreaming the vision of William C. Bryant, who wrote fifty years later and is still living in ripe and honored old age :

“ Here are old trees, tall oaks, and gnarled pines,
That stream with gray-green mosses ; here the ground
Was never touched by spade, and flowers spring up
Unsown and die ungathered. It is sweet
To linger here among the flitting birds
And leaping squirrels, wandering brooks, and winds
That shake the leaves, and shatter as they pass
A fragrance from the cedars thickly set
With pale blue berries. In these peaceful shades—

Peaceful, unpruned, immeasurably old—
 My thoughts go up to the long dim path of years,
 Back to the earliest days of liberty.”

Later on, Judge Peters met Joseph Bonaparte, ex-king of Spain, in the Lansdowne Mansion, and further back perhaps the last royal governor of Pennsylvania, John Penn, who lived in the Lansdowne grounds, and farther forward his grandson, Granville John Penn, who built the still standing place known as “Solitude,” while before his death Judge Peters, then in his hale old age, again welcomed General La Fayette as the nation’s guest in 1824, under the hospitable roof of Belmont Mansion.

They are all gone now. Several of them lived far into the nineteenth century. Richard Peters died at Belmont Mansion in 1828. George Washington died at Mount Vernon in 1799. Benjamin Franklin died in Philadelphia on April 17, 1790. Thomas Jefferson and John Adams died on the same day, July 4, 1826. The Marquis de La Fayette died in Paris May 20, 1834. They builded better than they knew. I have attempted to indicate the astonishing progress of our country since they passed away.

But no year in all this long period, has been more instructive than that which ends to-day, the one hundred and first anniversary of American Independence. Since the last 4th of July we seem to have grown to a grander height, and into larger duties. We have begun to crystallize into practice the great reforms solemnly enforced by the fathers of the republic. Twelve years ago our civil war ended with the abolition of human slavery, and the preservation of

human freedom, by the salvation of our government. The succeeding interval has been filled with extraordinary events, not the least of which was general extravagance and renewed sectional strife.

But we seem to have approached solid ground within the last six months. Two of the greatest European nations have exploded into a war, which threatens to extend far and wide in the old world, but here all is peace, or the assurance of peace. A wise administration of the general government bravely presses for the restoration of tranquillity between recently divided States.

These proffers of friendship to the South are questioned by some honest men. Perhaps they may be rejected by mere partisans, but I will not believe it. The people of the South will be blind indeed, and callous, if they should turn away from a purpose so honest and sincere. In that event they would in the end be losers, while the man most anxious to bring them back to the old altars would be honored for ever more.

Economy, reform and retrenchment, consecrate and crown this noble purpose.

The ex-president of the United States is welcomed by the European nations with royal honors and popular applause. He is the recognized ideal of a great free people saved from ruin by their own unaided prowess. These are the auspicious signals of the political centenary which finished its first year yesterday.

It is true these bright signs are followed by a protracted business depression.

But even this depression is not without its uses. It compels a severe and resolute self-examination. It enforces the correction of social and individual mistakes. It imposes upon Government and people a rigid frugality and economy. The Government cannot shrink from its duty while the people suffer; and the masses will not complain if their public servants follow their example. The office-holder must work for his money, like the unofficial tax-payer. Competency must be the test in public, as it is in private business. There can be no privileged class in a Republic. There can be no families quartered on the Treasury. The citizen in office neither becomes the master of the citizen not in office, nor yet his slave.

He is to be paid from his work, not for his political skill. The experience of the last forty years was hard enough in both parties; but the expensive and dangerous excesses since the war became insufferable.

A new departure was inevitable. It could not be postponed without private and general bankruptcy. A great man came in time as the instrument of Reform. Providence sent us the warning, and also the deliverer. God give him strength to persevere, and woe to those who attempt to chain his hands, and to defeat his great mission.

The clouds still hang heavily over our country, and not only ours alone, but over all the interests of labor abroad. Yet I can see the silver lining growing broader and brighter. And to this end, apart from the saving and salutary actions of the new President,

I greet the Permanent Exhibition. Vain are the theories of statesmen or presidents, if the people are cold, luxurious and corrupt. Labor is the true physician. It is a modern vice to regard industry as the badge of inferiority. Our youth have come to think apprenticeship to an honest trade a degradation. When I was a boy, the professions were looked upon rather as the easy cushions for rich men's sons, but now our lads all want to be engineers, doctors, lawyers, painters, architects, sculptors, clerks, shop-keepers,—anything for an easy life, anything but manual toil. Is it not so, my friends? The result is, that we have a swarm of poor doctors, poor lawyers, poor engineers, and poor politicians; prisons full of young people, whose shame it is, if not their boast, that they never learned a trade. Hard times are intensifying these hard truths, and we must digest them if we expect to escape from evils that unchecked will destroy people and government together.

And while it is time, our young people of both sexes should come to realize that labor is not dishonorable, or we must rush downward more rapidly. What is called Technology is a great modern alternative. I should like to see the idea organized in our Permanent Exhibition. Let us have good mechanics instead of bad lawyers, doctors, artists and engineers. Mechanic Art is a new phase, and if it is preceded by practice, it can be improved by science. But first of all, give us a foundation for our boys. Make them work before they play. Insist upon it that our trades' unions shall put our sons into our workshops to learn the calling of their fathers. The exclusion of youth from the oppor-

tunities of acquiring the rudiments of mechanical education, is an offence that fills our poor houses and jails with idlers, and ought to be broken up at all hazards. That done, your technology comes into use, and perfects a career well begun. In London, the Crystal Palace is to be turned into a great technological school. The tailors, goldsmiths, blacksmiths, dyers, house painters, coopers, weavers, iron workers and fishmongers, are giving large sums to perfect the organization. It is a plan worthy of imitation. But how can we make our young men printers, shoemakers, carpenters, blacksmiths, tailors, stonecutters, &c., if they are first taught that all trades are ungentle or unfashionable, and then refused the chance because they are ready to go to work as their forefathers did before them?

These chances are the preparation for skilled labor. Can we indeed improve human effort if we forget the maxims of Benjamin Franklin himself, for years an apprentice and travelling printer? Can we hope to see great establishments rise if we ignore the stern example of Stephen Girard? The age we live in supplies numerous new facilities for acquiring knowledge; but its duties are none the less. The wider the sphere of human usefulness, the greater the responsibility. And it is a rule as fixed as anything in nature, that great and lasting success in life does not come without patience and perseverance. A man may get rich in an hour; but the only wealth that wears is that which comes from industry and economy. If you needed a recent example, take that of John Welsh, the late Chief of the Centennial Board of Finance. He

quietly did a giant's work, and now a nation's applause rewards the simple habits of a life of work ; and to-day he holds as his proudest escutcheon the reward of his last-completed task. He and his associates, Fraley, Cochran, Winsor, Biddle, Wanamaker, Felton, Shortridge, Wetherill, Lewis, Bigler, Little, Steel, James, Baird and Dudley, have paid off the Centennial debts to the last penny ; but who shall ever pay *them* for their fidelity and honesty ?

Every name I have mentioned is the symbol of a life of honor, perseverance, and good faith, and all, together, they will shine as bright living stars to guide the youth of Philadelphia for years to come. They never spent an idle or a useless day in their long and interesting lives.

I finish as I began. I have not said much to you about arts and sciences. I could grow enthusiastic about pictures, and statues, and ceramics, and bric-a-brac, and engravings ; but as that sort of oratory and writing is just now the universal topic, I thought this a good time to talk to you about the old-fashioned men of the past, and of the utilities of every-day use in common life. Perhaps one candid voice in the loud chorus of sentiment, may not be heard, but at least it has been frankly spoken.

